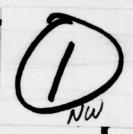
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## FOREIGN TECHNOLOGY DIVISION



ELECTRONIC DESK-TOP CALCULATORS FROM THE USSR

bу

K. Naeser



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## EDITED TRANSLATION

FTD-ID(RS)I-1390-76 15 October 1976

FTD-76-C-001027

ELECTRONIC DESK-TOP CALCULATORS FROM THE USSR

By: K. Naeser

English pages: 4

Source: Vermessungs Technik, Vol 23, Nr 11, November 1975, PP. 432-433.

Country of origin: East Germany

Translated by: Gale M. Weisenbarger

Requester: FTD/ETCK

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PREPARED BY:

TRANSLATION DIVISION FOREIGN TECHNOLOGY DIVISION WP-AFB, OHIO.

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ELECTIONIC DESK-TOP CALCULATORS FROM THE USSR

K. Naeser

A series of desk-tcp electronic calculators from the USSR with the type designation ISKRA is becoming known and some types from the series are to be exported to the GDR. The series begins with simple four-function calculators and goes on to programmable calculators with the possibility for connecting external input and output devices. Table 1 gives a summary of the most important parameters of the ISKRA types.

Input is accomplished tasically with a keyloard. For inputting commands there is a variously dimensioned function keyboard. A special input for commands is supplementarily provided in the case of the ISKRA 122. The ISKRA 123 has limited programmability. It stores a program of up to 71 commands which are to be input using the function

keyboard. The ISKRA 125 is completely programmable and also has comparison and jump operations. It has a special programming language. Program input can also be accomplished using magnetic cards or casette magnetic tage. It is the tasic model for a series of programmable desk-top calculators which differ from each other by various interchangeable microprograms. For ISKER types 110-123 cutput is accomplished with digital display tubes. Only in the ISKRA 125 is a beam deflection tube used for display. The ISKRA 122 has a supplementary output channel and with the ISKER 125 it is possible to connect a printer or to cutput onto casette magnetic tape.

The operation times for addition and subtraction are between 0.02 and 0.05 s and for multiplication and division between 0.15 and 0.35 s.

The most important functions which are realized in individual types through permanent wiring are shown in Table 2.

From: Electronic desk-top calculators from the USSR. Crganization 8 (1974) 8, pg. 47-49.

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Table 1. Parameters of ISKRA calculators.

ISKRA	110	111	112	121	122 123	125
Wortlänge in Dezi	mat-	12	12	16	16	12
aVestkomma nach	0; 2; 4; 6 (5) hight vorhanden	0; 1; 2; 3; 6; 10 nicht vorhanden	0 bis 12 nicht vorhanden	0 bis 16 nicht vorhanden	0 bis 16 nicht vorhanden	0 bis 12 vorhanden
Operandenspeiche Konstantenspeich		3	1	2	5	bis 100
Zwischenwertspeie Masse [kg] Abmessung [mm <sup>a</sup> ]	cher 3.5	7 365×305×120	8 365×305×120	15 405 × 385 × 127	15 405 × 385 × 127	25 (11) etwa 0,06 m

KEY: (1) Word length in decimal places; (2) Fixed decimal after n places; (3) to; (4) Floating decimal; (5) Not present; (6) Operand storage; (7) Constant storage; (8) Intermediate value storage; (9) Weight (kh); (10) Dimensions (mm<sup>3</sup>); (11) Approximately.

Table 2. Functions of ISKRA calculators. ((MEY: 1)

Addition/subtraction; 2) Multiplication/division; 3) Reciprocal

division; 4) Percent calculation; 5) Operations with constants; 6)

Summation in storage; 7) Faising to powers; 8) Extraction of roots;

9) Automatic rounding; 10) Operations with trackets; 11) Sign change;

12) Trigonometric functions; 13) Hypertolic functions; 14) Natural

logarithms; 15) Conversion of degree measure into arc measure; 16)

Comparison; 17) Conditional operations; 18) With any exponents.))

ISKRA	110	111	112	121	122	123	125
Addition Subtraktion	×	×	×	×	×	×	×
Multiplikation Division	×	×	×	×	×	×	×
Kehrwertdivision		×	×	×	×	×	×
Prozentrechnung		×	×				
Operationen mit Konstan-							
stanten	×	X	×	×	×	×	
Summierung im Speicher		×	×	×	×	×	×
Potenzieren				×	×	×	×
Radizieren				×	×	X	×
automatisches Runden					×	×	
Operationen mit Klammern					×	X	
Zeichenverschiebung						×	
trigonometrische Funktioner	1						×
hyperbolische Funktionen							×
natürlicher Logarithmus							×
Umrechnung Grad- in							
Bogenmaß							×
Vergleichen							×
bedingte Operationen							×

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ELECTRONIC DESK-TOP CALCULATORS FROM THE			
USSR	Translation		
	6. PERFORMING ORG. REPORT NUMBER		
AUTHOR(s)	B. CONTRACT OR GRANT NUMBER(s)		
K. Naeser			
PERFORMING ORGANIZATION NAME AND ADDRESS	10. PPOGRAM ELEMENT, PROJECT, TAS		
Foreign Technology Division			
Air Force Systems Command			
U. S. Air Force	12. REPORT DATE		
CONTROLLING OFFICE NAME AND ADDRESS			
	November 1975		
	is. Asmeer of Pages		
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